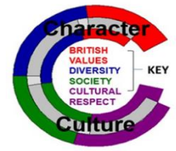
DESIGN AND TECHNOLOGY

Link - R:

YEAR 7 – Resistant Materials – **Memo pad holder & LED lamp** (KS3) = 7/8 Week rotation

INTENT:
To play a part in developing knowledge and understanding of the Design and Technology National Curriculum. **Students are to** develop an understanding of how to work safely with tools, equipment and materials within the **resistant materials** and **electronics** workshop.

The bigger picture:
This scheme plays an important role within the technology curriculum as it is essentially teaching skills from the National Curriculum and preparing students for the challenges of key stage 4. Teachers NGD and SMD teach this together one on each project, each completing 1 assessment and 1 homework.
The Next Step: This unit is preparation for the Engineering Design Course at Key stage 4. It focusses predominantly on Unit R040 which is based upon the manufacture of an engineering product from a CAD drawing..



* Link to C&C

Character & Culture
Character and Culture is embedded within the curriculum map and coded as shown.

Society
Design and Technology can lead to many careers in society. An example of this is within the **STEM** routes.

Lesson	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Retrieval Task:	Health and safety		Key literacy		Marking out		Cutting tools		User		Validation		Improvements		Careers	
Objective: I do, we do & you do…	**Memo-pad** Workshop health & Safety To use RM tools to make a key ring	**LED Lamp**	**Memo-pad** To use RM tools to make a key ring. Design ideas for memo pad	**LED Lamp**	**Memo-pad** Mark out acrylic base and shape	**LED Lamp**	**Memo-pad** Cut out MDF back board! Finish shape using file/glass paper	**LED Lamp**	**Memo-pad** Decorate back board to finish design	**LED Lamp**	**Memo-pad** Attach back board to acrylic base	**LED Lamp**	**Memo-pad** Create front face for peg & attach	**LED Lamp**	Finish week – overspill for making tasks and extension work.	
Silent Study:	B M E		B M E		B M E		B M E		B M E		B M E		B M E		B M E	
Assessment:	**Baseline** ASESESSMENT		FAR 1 – 6 Design idea for memo-pad								FAR 2 – Evaluation of memo pad design		INPUT GRADES		**End of year** ASSESSMENT	
Homework:			SPELLING TEST 1								SPELLING TEST 2					

CROSS CURRICULAR LINKS:
- Art: Within this unit students will develop their 3D drawing skills and making skills which will benefit the art curriculum.
- ICT: This unit will give students an understanding of how you can design in 3D using CAD/CAM

LESSON STRUCTURE:
•ALL lessons will use the whole school strategy I DO, WE DO, YOU DO
•ALL lessons will have a retrieval task that engages learners immediately after arrival. In practical settings this may not use a PowerPoint.
•All lessons will have a period of SILENT STUDY.
All lessons will have Learning objectives visible

WHAT SKILLS WILL BE DEVELOPED:
•Students will develop an understanding of how to work safely with tools, equipment, and materials within the resistant materials workshop.

WHY WE ARE LEARNING THIS:
•To develop an understanding of health and safety within a workshop.
•To develop a range of practical skills which will help us create a product from the resistant materials of plastic, timber and metal.
•To learn about materials and their properties.

HOW TO BECOME AN EXPERT IN THIS TOPIC:
•By making something at home using tools from the garage. Make something that can be of use to your family.

Literacy: 2 for 2/3 for 3	2 for 2 and 3 for 3 – Within the unit of work teachers use educational and subject specific key literacy. Key Vocab words and key pictures – MDF, Sandpaper, Resistant materials, Steel rule, Tri Square, Health & Safety, Purpose, User, Designs, File, strip heater, circular sander, acrylic
CULTURAL CAPITAL	**Appreciating Craftsmanship:** Woodworking projects fit within year 7,8 and 9 curriculum plans, creating a memo-pad, a lamp, a pin-ball mechanical toy and a trinket box. Learning traditional and modern woodworking techniques gives students essential hands-on skills and context, supporting the vision of cultural capital as key reference points for all children. **Electronics in Local Industries:** Electronics projects fit within year 7,8 and 9, creating a lamp, a steady hand game and an amplifier. Understanding the application of electronics in local industries, such as motorsports, electrical engineering, and automotive engineering, provides students with essential practical knowledge, enhancing their ability to connect classroom learning to real-world applications.
Connected Knowledge	This is a unit designed to… prepare students for the future of design and technology at Bilton School as having practical woodworking skills is a priority and plays a big part of the future curriculum. Following this it supports the journey into KS4 and 6th form Art and Design. Across the school this supports the Art, ICT and Business departments as these skills are transferable and are beneficial in their curriculum plans also. Beyond school, the world of work is becoming consumer driven, and we are in an area of the country with a huge amount of engineering companies and potential future jobs. Engineering is a perfect steppingstone to further education, apprenticeships, and university.
IMPACT	Students measure progress using the department F.A.R tracking sheets which are in the Assessment Booklets, Teachers track the marks given using the department shared mark book and SIMS. This will show progress over time and prepare students for future learning at Bilton School.

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